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United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,

Forage-Crop Investigations,

WASHINGTON, D. C.

SAINFOIN (*Onobrychis sativa*).

Sainfoin, a native of southern Europe, is a deep-rooting perennial legume adapted for growing on calcareous, sandy, and gravelly soils which are too poor to grow clover or alfalfa. Upon these types of soil this plant has been largely grown in Europe, where it has been of considerable economic value on dry, hilly pastures. Even though it has been tried to a considerable extent in this country it is grown to a very limited extent. Sainfoin is quickly killed when the ground becomes saturated with water, and it is therefore unsuited for poorly drained soils. It has made a satisfactory growth under careful irrigation, although the yields are not as large as those of alfalfa under similar conditions. Since sainfoin will not endure much cold weather when the plants are young, it is rather difficult to establish a stand, but when once well rooted it will resist low temperatures and last indefinitely.

Sainfoin gives promise of being a successful forage crop in portions of the Pacific Northwest where irrigation is impossible. It has also shown some promise in many other portions of the United States, and further trials are recommended.

USES OF SAINFOIN.

Sainfoin is used principally as a hay, pasture, and green-manure crop. Usually but one cutting of hay is obtained each season. It is mowed while in bloom. Under favorable conditions a second crop of hay may be cut, but, since the second crop is ordinarily much smaller than the first, it is usually pastured. The hay is more easily cured than red clover.

Sainfoin makes an excellent pasture crop, especially if it is once established upon poor, hilly pastures. However, it should be pastured only lightly, if at all, the first year, so that the plants may have an opportunity to become well rooted. At no time should it be pastured too closely, as under such circumstances it does not recover readily.

Sainfoin is used to a considerable extent as a green-manure crop in Europe, but until it becomes better established in this country it will doubtless be of little use for this purpose. It is not well adapted to rotations.

SEEDING SAINFOIN.

Sainfoin should be seeded on a well-prepared, finely pulverized seed bed at the rate of 3 to 4 bushels of seed if drilled in rows 3 feet apart or 5 to 6 bushels of seed if sown broadcast. On account of the large size of the seed and the fact that it is gathered with the pod it should be planted from 1 to 2 inches deep. In the drier sections of the country it is desirable to use barley or some other grain as a nurse crop. In the South fall sowing is recommended, while in the North spring sowing usually gives the best results. Since sainfoin seed loses its vitality in a short time, all seed should be tested for germination before it is used. The loss of vitality of the seed is the cause of many failures with this crop.

INOCULATION OF SAINFOIN.

In order to maintain a good stand of sainfoin it is necessary that inoculation be provided. If soil can be obtained from a field where sainfoin is growing abundantly, it should be mixed with the seed, pound for pound, and sown after sunset or on a cloudy day and harrowed in, since the sunlight is very injurious to the inoculating germs. Soil from a well-inoculated stand of sainfoin is not usually available, but pure cultures for inoculation can usually be obtained from the United States Department of Agriculture.

SUGGESTIONS.

Since sainfoin is so important a crop in Europe, it is recommended that it be much more extensively tested in this country. This is particularly true on limestone hills, where a perennial legume would be of great economic importance if added to the grasses already present, and especially in the subhumid regions, where the hills are too dry to support most sod-forming grasses under heavy grazing.

J. M. WESTGATE, *Agronomist.*

H. S. COE, *Scientific Assistant,
Clover Investigations.*

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